



TEST REPORT

Reference No. : WTX25X05122823W004
Manufacturer : Lumi United Technology Co., Ltd.
Address : Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No. 3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China
Product Name : Smart Lock B50
Model No. : DL-D12E
Standards : AS/NZS CISPR 32:2015+A1:2020
Date of Receipt sample : 2025-05-14
Date of Test : 2025-05-14 to 2025-05-28
Date of Issue : 2025-05-28
Test Report Form No. : WTX_AS/NZS CISPR 32_2015A
Test Result : Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

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TABLE OF CONTENTS

1. GENERAL INFORMATION	4
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	4
1.2 TEST STANDARDS.....	5
1.3 TEST METHODOLOGY	5
1.4 EUT SETUP AND OPERATION MODE	6
1.5 TEST EQUIPMENT LIST AND DETAILS	7
2. SUMMARY OF TEST RESULTS	9
3. RADIATED EMISSION	10
3.1 MEASUREMENT UNCERTAINTY	10
3.2 BASIC TEST SETUP BLOCK DIAGRAM.....	10
3.3 CORRECTED AMPLITUDE & MARGIN CALCULATION.....	11
3.4 ENVIRONMENTAL CONDITIONS	11
3.5 SUMMARY OF TEST RESULTS	11
EXHIBIT 1 - EUT PHOTOGRAPHS.....	16
EXHIBIT 2 - TEST SETUP PHOTOGRAPHS	17

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Report version

Version No.	Date of issue	Description
Rev.00	2025-05-28	Original
/	/	/

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Smart Lock B50
Trade Name:	Aqara
Model No.:	DL-D12E
Adding Model(s):	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	DC6V
Rated Current:	/
Rated Power:	/
Power Adaptor Model:	/
Highest Internal Frequency:	Above 108MHz
Classification of Equipment:	Class B



1.2 Test Standards

The tests were performed according to following standards:

AS/NZS CISPR 32:2015+A1:2020: Electromagnetic compatibility of multimedia equipment - Emission requirements.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product maybe which result in lowering the emission/immunity should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with the standards AS/NZS CISPR 32 for Electromagnetic compatibility of multimedia equipment, and all related testing and measurement techniques intentional standards.

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1.4 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List				
Test Mode	Description	Remark	Power Supply Mode	
TM1	Normal working	Battery powered; Normal working	DC6V	

EUT Cable List and Details				
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite	With / Without Chip
/	/	/	/	/

Special Cable List and Details				
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite	With / Without Chip
/	/	/	/	/

Auxiliary Equipment List and Details				
Description	Manufacturer	Model	Serial Number	
/	/	/	/	/



1.5 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
<input type="checkbox"/> Chamber A:Below 1GHz					
Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2025-02-23	2026-02-22
Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2025-02-23	2026-02-22
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2025-02-23	2026-02-22
Amplifier	HP	8447F	2805A03475	2025-02-23	2026-02-22
Loop Antenna	Schwarz beck	FMZB 1516	9773	2024-02-26	2026-02-25
Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2025-02-23	2026-02-22
Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22
Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22
Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22
<input type="checkbox"/> Chamber A:Above 1GHz					
Amplifier	C&D	PAP-1G18	14918	2025-02-23	2026-02-22
Horn Antenna	ETS	3117	00086197	2025-02-23	2026-02-22
Coaxial Cable	/	C16-07-07	/	2025-02-23	2026-02-22
Coaxial Cable	/	C16-07-07	/	2025-02-23	2026-02-22
Coaxial Cable	/	C16-07-07	/	2025-02-23	2026-02-22
<input type="checkbox"/> Chamber B:Below 1GHz					
Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2024-03-17	2027-03-16
Amplifier	Agilent	8447D	2944A10457	2025-02-23	2026-02-22
EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2025-02-23	2026-02-22
Coaxial Cable	/	1.5MRFC-L WB3	/	2025-02-23	2026-02-22
Coaxial Cable	/	RG 316	/	2025-02-23	2026-02-22
Coaxial Cable	/	RG 316	/	2025-02-23	2026-02-22
<input checked="" type="checkbox"/> Chamber C:Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2025-02-23	2026-02-22
Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2024-04-18	2027-04-17
Loop Antenna	Schwarz beck	FMZB 1516	9773	2024-02-26	2026-02-25
Amplifier	HP	8447F	2944A03869	2025-02-23	2026-02-22
Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22
Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22



Coaxial Cable	/	RC_6G-N-M	/	2025-02-23	2026-02-22
<input checked="" type="checkbox"/> Chamber C: Above 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2025-02-23	2026-02-22
Horn Antenna	POAM	RTF-118A	1820	2023-03-10	2026-03-09
Amplifier	Tonscend	TAP010180 50	AP22E80623 5	2025-02-23	2026-02-22
DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2024-03-17	2026-03-16
Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2025-02-23	2026-02-22
Coaxial Cable	/	RC-18G-N-M	/	2025-02-23	2026-02-22
Coaxial Cable	/	RC-18G-N-M	/	2025-02-23	2026-02-22
Coaxial Cable	/	RC-18G-N-M	/	2025-02-23	2026-02-22
<input type="checkbox"/> Conducted Room 1#					
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2025-02-23	2026-02-22
EMI Test Receiver	Rohde & Schwarz	ESCI	100525	2024-12-08	2025-12-07
AC LISN	Schwarz beck	NSLK8126	8126-279	2025-02-23	2026-02-22
Coaxial Cable	/	RG 316	/	2025-02-23	2026-02-22
Coaxial Cable	/	6MRFC-D P	/	2025-02-23	2026-02-22
<input checked="" type="checkbox"/> Conducted Room 2#					
EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2025-02-23	2026-02-22
LISN	Rohde & Schwarz	ENV 216	100097	2025-02-23	2026-02-22
Coaxial Cable	/	RG 316	/	2025-02-23	2026-02-22



2. SUMMARY OF TEST RESULTS

Standards	Description of Test Item	Result
AS/NZS CISPR 32	Conducted Emission	N/A
	Radiated Emission	Compliant

N/A: not applicable

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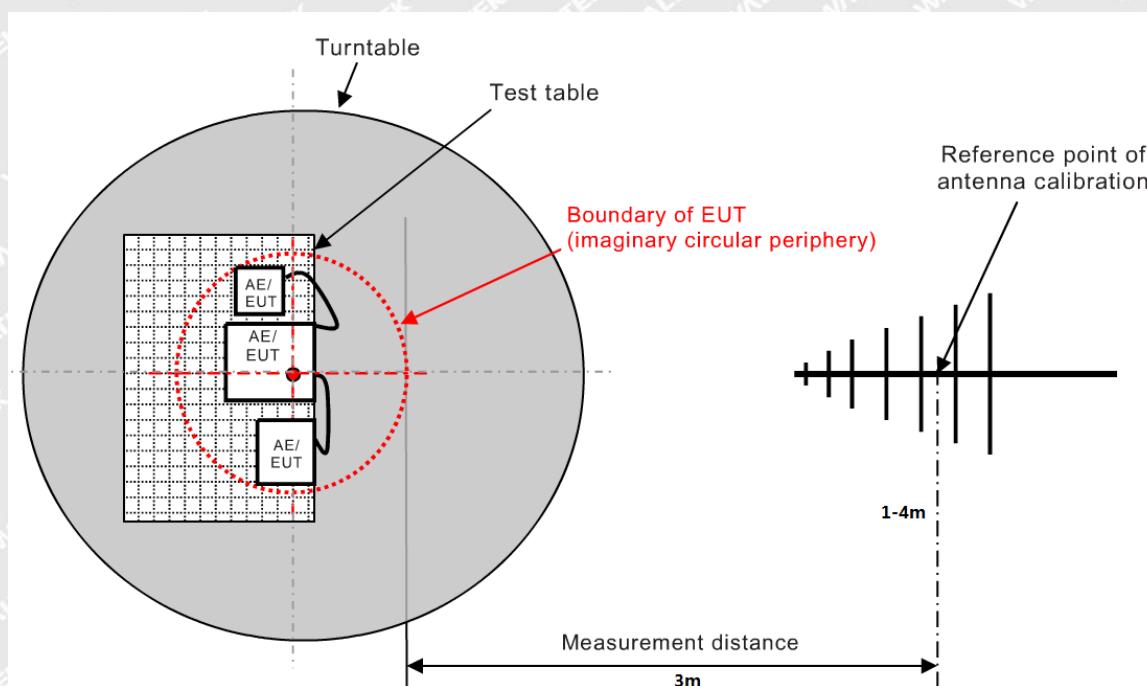
3. Radiated Emission

3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement.

Measurement uncertainty			
Parameter	Conditions	Uncertainty	
Radiated Emissions	Radiated	30-200MHz ±4.52dB	
		0.2-1GHz ±5.56dB	
		1-6GHz ±3.84dB	
		6-18GHz ±3.92dB	

3.2 Basic Test Setup Block Diagram





3.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\begin{aligned} \text{Corr. Ampl.} &= \text{Indicated Reading} + \text{Correct} \\ \text{Correct} &= \text{Ant.Factor} + \text{Cable Loss} - \text{Ampl.Gain} \end{aligned}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit.

For example, a margin of -6dB μ V means the emission is 6dB μ V below the maximum limit for Class B device.

The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{AS/NZS CISPR 32 Class B Limit}$$

3.4 Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

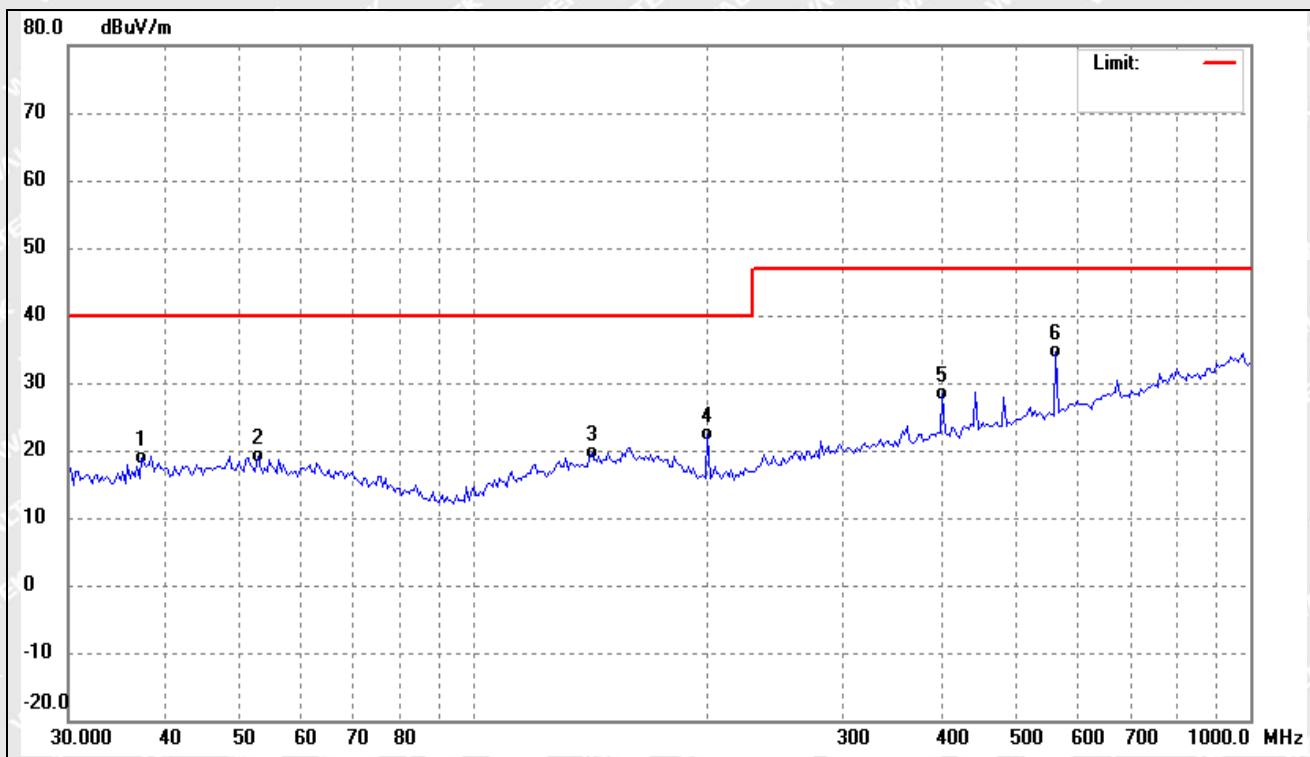
3.5 Summary of Test Results

Look at the graphs and data below:



➤ 30MHz to 1GHz

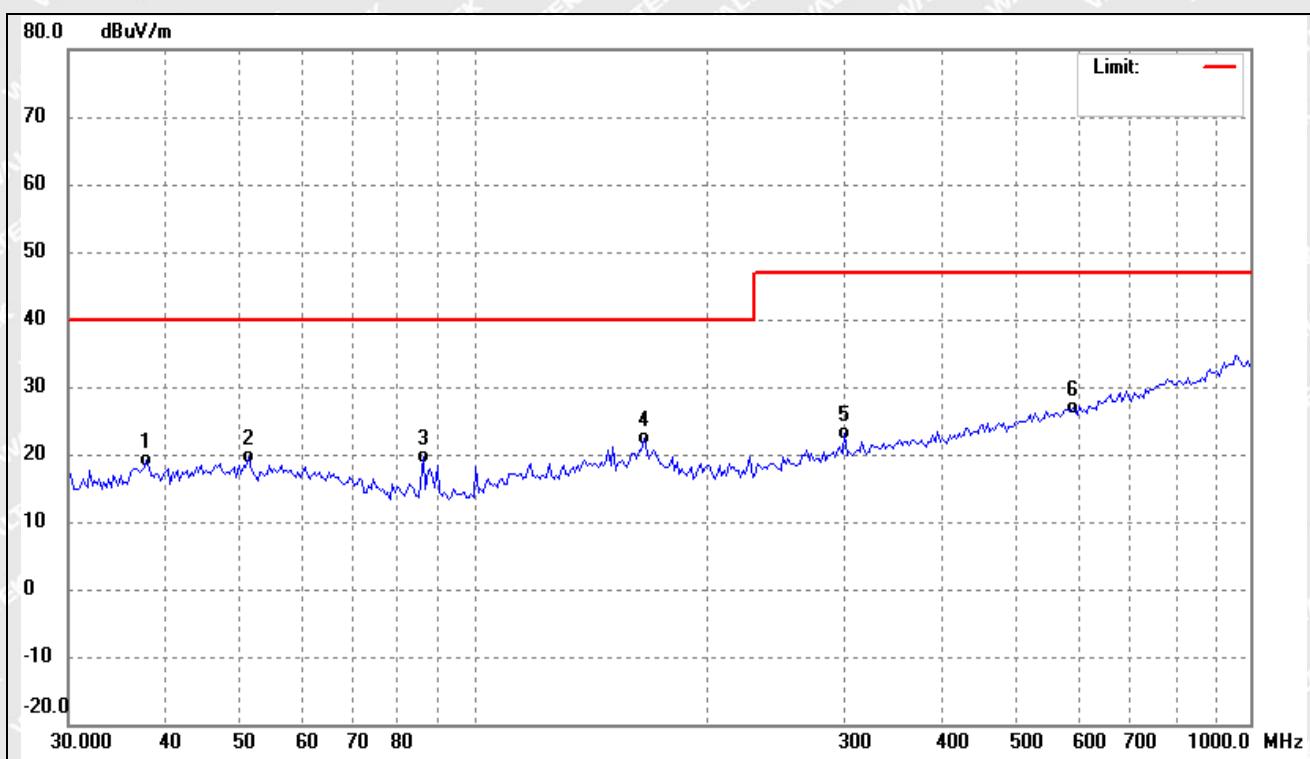
Test mode:	TM1	Polarity:	Horizontal
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	37.3017	28.69	-9.90	18.79	40.00	-21.21	-	-	QP
2	52.6345	28.11	-9.04	19.07	40.00	-20.93	-	-	QP
3	141.7694	28.86	-9.23	19.63	40.00	-20.37	-	-	QP
4	200.0432	33.92	-11.48	22.44	40.00	-17.56	-	-	QP
5	401.1050	34.52	-6.08	28.44	47.00	-18.56	-	-	QP
6	562.0143	37.89	-3.34	34.55	47.00	-12.45	-	-	QP



Test mode:	TM1	Polarity:	Vertical
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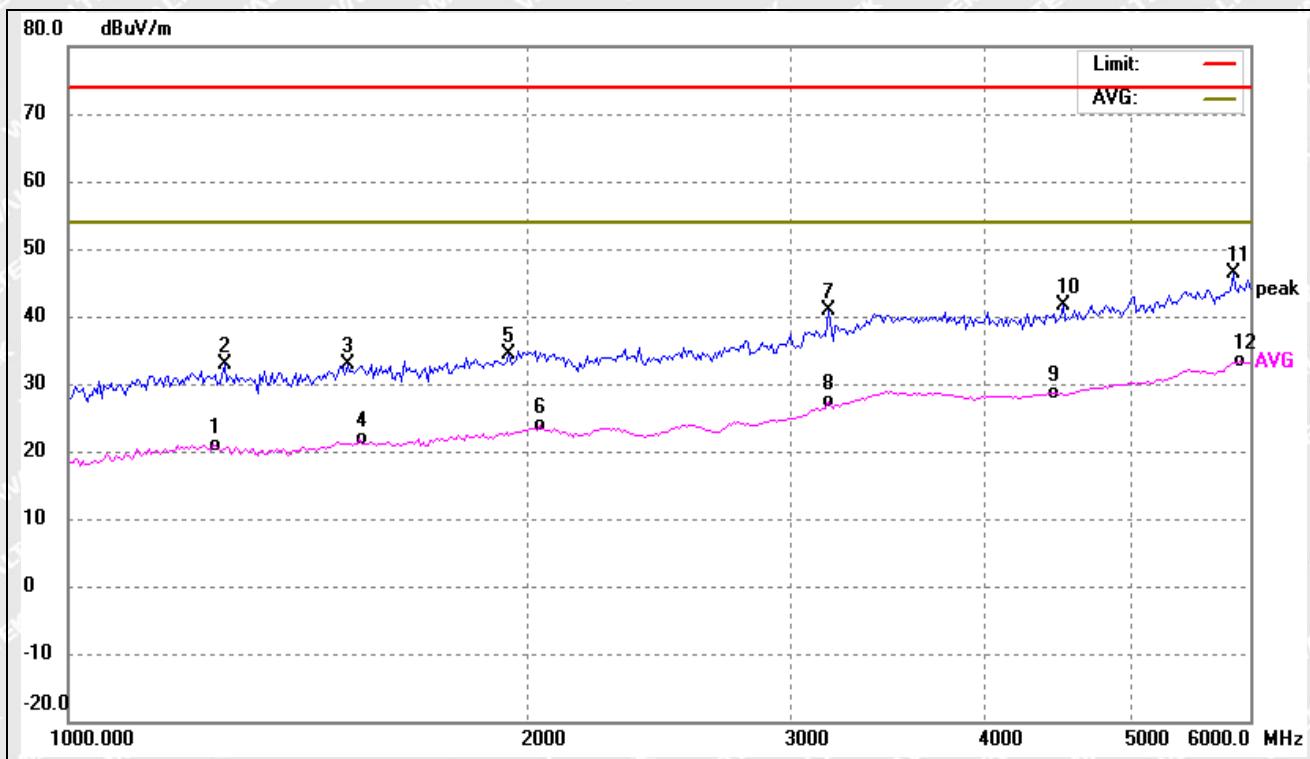


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	37.8297	28.99	-9.82	19.17	40.00	-20.83	-	-	QP
2	51.1756	28.64	-8.99	19.65	40.00	-20.35	-	-	QP
3	86.0795	33.58	-14.07	19.51	40.00	-20.49	-	-	QP
4	165.4716	31.18	-8.71	22.47	40.00	-17.53	-	-	QP
5	300.6988	30.79	-7.73	23.06	47.00	-23.94	-	-	QP
6	590.3511	29.32	-2.36	26.96	47.00	-20.04	-	-	QP

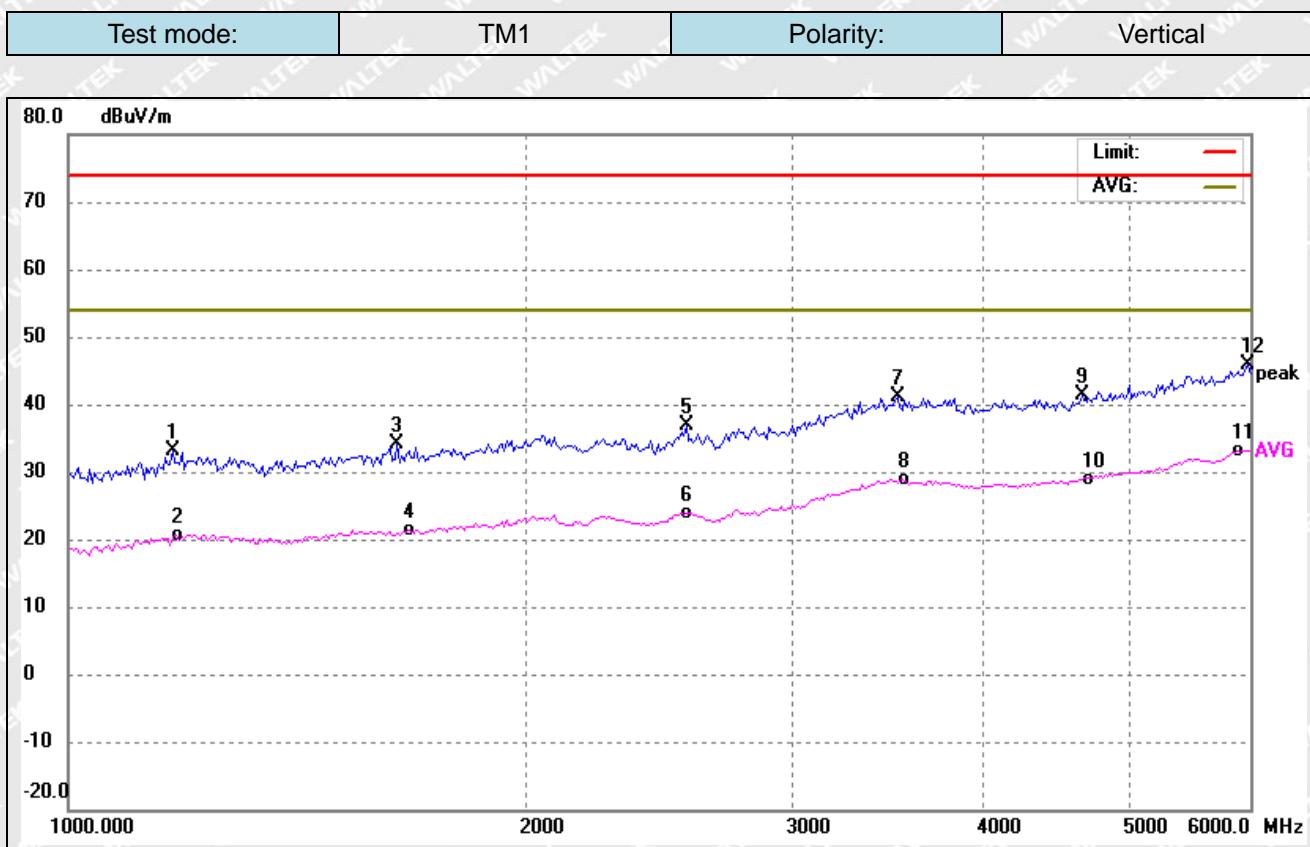


➤ Above 1GHz

Test mode:	TM1	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	1249.350	44.43	-23.45	20.98	54.00	-33.02	-	-	AVG
2	1267.424	56.19	-23.40	32.79	74.00	-41.21	-	-	peak
3	1527.607	55.42	-22.62	32.80	74.00	-41.20	-	-	peak
4	1555.281	44.25	-22.47	21.78	54.00	-32.22	-	-	AVG
5	1950.080	54.87	-20.47	34.40	74.00	-39.60	-	-	peak
6	2043.266	43.95	-20.12	23.83	54.00	-30.17	-	-	AVG
7	3166.462	57.48	-16.72	40.76	74.00	-33.24	-	-	peak
8	3166.462	44.11	-16.72	27.39	54.00	-26.61	-	-	AVG
9	4453.683	42.44	-13.75	28.69	54.00	-25.31	-	-	AVG
10	4518.112	55.24	-13.58	41.66	74.00	-32.34	-	-	peak
11	5851.070	55.93	-9.48	46.45	74.00	-27.55	-	-	peak
12	5914.439	42.61	-9.32	33.29	54.00	-20.71	-	-	AVG



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	1171.155	57.03	-23.81	33.22	74.00	-40.78	-	-	peak
2	1175.368	44.44	-23.78	20.66	54.00	-33.34	-	-	AVG
3	1647.250	56.15	-21.98	34.17	74.00	-39.83	-	-	peak
4	1677.091	43.13	-21.83	21.30	54.00	-32.70	-	-	AVG
5	2552.754	55.76	-18.92	36.84	74.00	-37.16	-	-	peak
6	2552.754	42.78	-18.92	23.86	54.00	-30.14	-	-	AVG
7	3513.965	55.72	-14.51	41.21	74.00	-32.79	-	-	peak
8	3539.291	43.37	-14.55	28.82	54.00	-25.18	-	-	AVG
9	4649.779	54.77	-13.41	41.36	74.00	-32.64	-	-	peak
10	4649.779	42.33	-13.41	28.92	54.00	-25.08	-	-	AVG
11	5893.240	42.53	-9.37	33.16	54.00	-20.84	-	-	AVG
12	5978.494	55.09	-9.15	45.94	74.00	-28.06	-	-	peak

Remark: '-' Means' the test Degree and Height are not recorded by the test software and only show the worst case in the test report.



EXHIBIT 1 - EUT PHOTOGRAPHS

Please refer to "ANNEX ASNZS".

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EXHIBIT 2 - TEST SETUP PHOTOGRAPHS

<p>Radiation Emission Test View(30MHz to 1GHz)</p>	A photograph showing a black rectangular device mounted on a white rectangular test fixture. The fixture is positioned on a circular black turntable. The turntable is situated on a reflective floor marked with blue and yellow caution tape forming a triangle. The background consists of a large anechoic chamber with grey foam panels and a grid of black cross markers on the ceiling.
<p>Radiation Emission Test Setup ((Above 1GHz))</p>	A photograph showing the same black rectangular device and white test fixture setup as the first image, but from a different angle. The turntable is now positioned on a surface covered with numerous black, triangular, spike-like absorbers. The background is the same anechoic chamber with its characteristic grid of black cross markers on the ceiling.

***** END OF REPORT *****